



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2023-0010; Project Identifier MCAI-2022-01090-T; Amendment 39-22406; AD 2023-07-04]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc., Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Bombardier, Inc., Model CL-600-2B16 (604 Variant) airplanes. This AD was prompted by a determination that during certain modes, the flight guidance/autopilot does not account for engine failure while capturing an altitude. This AD requires revising the existing airplane flight manual (AFM) to add new limitations and procedures. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES:

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-0010; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and

other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Material Incorporated by Reference:

- For service information identified in this final rule, contact Bombardier Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-2999; email ac.yul@aero.bombardier.com; website bombardier.com.

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at regulations.gov under Docket No. FAA-2023-0010.

FOR FURTHER INFORMATION CONTACT: Chirayu Gupta, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Bombardier, Inc., Model CL-600-2B16 (604 Variant) airplanes. The NPRM published in the *Federal Register* on February 2, 2023 (88 FR 7013). The NPRM was prompted by AD CF-2022-45, dated August 11, 2022, issued by Transport Canada, which is the aviation authority for Canada (referred to after this as the MCAI). The MCAI states that during (V) ALTS CAP or (V) ALTV CAP modes, the flight guidance/autopilot does not account for engine failure while capturing an altitude. If an engine failure occurs during or before a climb while in one of these

modes, the airspeed may decrease rapidly below the safe operating speed, and prompt crew intervention may be required to maintain a safe operating speed. Transport Canada AD CF-2022-45 requires updating the Limitations and Abnormal Procedures of the AFM for (V) ALTS CAP or (V) ALTV CAP modes to address the unsafe condition for the affected Model CL-600-2B16 (604 Variant) airplanes. These updates include:

- A warning regarding the potential airspeed decay in the case of an engine failure during a climb while in (V) ALTS CAP or (V) ALTV CAP modes.
- A new procedure to adjust the pitch attitude to maintain the required operating airspeed in the case of an engine failure during a climb while in (V) ALTS CAP or (V) ALTV CAP modes.

The unsafe condition, if not addressed, could result in the airplane failing to maintain a safe operating speed.

In the NPRM, the FAA proposed to require revising the existing airplane flight manual (AFM) to add new limitations and procedures. The FAA is issuing this AD to address the unsafe condition on these products.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-0010.

Discussion of Final Airworthiness Directive

Comments

The FAA received a comment from an individual who supported the NPRM without change.

Conclusion

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data,

considered the comment received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on this product. Except for minor editorial changes, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Related Service Information under 1 CFR Part 51

The FAA reviewed the following service information, which specifies revised Limitations and Abnormal Procedures of the AFM for (V) ALTS CAP or (V) ALTV CAP modes. These documents are distinct since they apply to different airplane models and configurations.

- Sub-section 2. “Automatic Flight Control System,” of section 02-08, Systems Limitations, of Chapter 2 – LIMITATIONS of Bombardier Challenger 604 Airplane Flight Manual – Publication No. PSP 604-1, Revision 120, dated December 8, 2020. (For obtaining this section of the Bombardier Challenger 604 Airplane Flight Manual – Publication No. PSP 604-1, use Document Identification No. CH 604 AFM.)

- Sub-sub-section B., “Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP,” of sub-section 1. “Single Engine Procedures” of section 05-03, “Single Engine Procedures,” of Chapter 5 – ABNORMAL PROCEDURES; of Bombardier Challenger 604 Airplane Flight Manual – Publication No. PSP 604-1, Revision 120, dated December 8, 2020. (For obtaining this section of the Bombardier Challenger 604 Airplane Flight Manual – Publication No. PSP 604-1, use Document Identification No. CH 604 AFM.)

- Sub-section 2. “Automatic Flight Control System,” of section 02-08, Systems Limitations, of Chapter 2 – LIMITATIONS of Bombardier Challenger 605 Airplane Flight Manual – Publication No. PSP 605-1, Revision 58, dated December 8, 2020. (For obtaining this section of the Bombardier Challenger 605 Airplane Flight Manual – Publication No. PSP 605-1, use Document Identification No. CH 605 AFM.)

- Sub-sub-section B., “Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP,” of sub-section 1. “Single Engine Procedures” of section 05-03, “Single Engine Procedures,” of Chapter 5 – ABNORMAL PROCEDURES of Bombardier Challenger 605 Airplane Flight Manual – Publication No. PSP 605-1, Revision 58, dated December 8, 2020. (For obtaining this section of the Bombardier Challenger 605 Airplane Flight Manual – Publication No. PSP 605-1, use Document Identification No. CH 605 AFM.)

- Sub-section 2. “Automatic Flight Control System,” of section 02-08, Systems Limitations, of Chapter 2 – LIMITATIONS of Bombardier Challenger 650 Airplane Flight Manual – Publication No. PSP 650-1, Revision 23, dated December 8, 2020. (For obtaining this section of the Bombardier Challenger 650 Airplane Flight Manual – Publication No. PSP 650-1, use Document Identification No. CH 650 AFM.)

- Sub-sub-section B., “Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP,” of sub-section 1. “Single Engine Procedures” of section 05-03, “Single Engine Procedures,” of Chapter 5 – ABNORMAL PROCEDURES; of Bombardier Challenger 650 Airplane Flight Manual – Publication No. PSP 650-1, Revision 23, dated December 8, 2020. (For obtaining this section of the Bombardier Challenger 650 Airplane Flight Manual – Publication No. PSP 650-1, use Document Identification No. CH 650 AFM.).

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

The FAA estimates that this AD affects 409 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs for required actions

| Labor cost | Parts cost | Cost per product | Cost on U.S. operators |
|---------------------------------------|------------|------------------|------------------------|
| 1 work-hour X \$85 per hour = \$85 | \$0 | \$85 | \$34,765 |

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2023-07-04 Bombardier, Inc.: Amendment 39-22406; Docket No. FAA-2023-0010; Project Identifier MCAI-2022-01090-T.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Bombardier, Inc., Model CL-600-2B16 (604 Variant) airplanes, certificated in any category, serial numbers (S/N) 5301 through 5665 inclusive, 5701 through 5988 inclusive, and 6050 through 6160 inclusive.

(d) Subject

Air Transport Association (ATA) of America Code 22, Auto flight.

(e) Unsafe Condition

This AD was prompted by a determination that during (V) ALTS CAP or (V) ALTV CAP modes, the flight guidance/autopilot does not account for engine failure

while capturing an altitude. The FAA is issuing this AD to address the possible occurrence of an engine failure during or before a climb while in (V) ALTS CAP or (V) ALTV CAP modes, which could cause the airspeed to decrease rapidly. The unsafe condition, if not addressed, could result in the airplane failing to maintain a safe operating speed.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Revision of Existing AFM

Within 30 days after the effective date of this AD: Do the applicable actions specified in paragraph (g)(1) through (3) of this AD.

(1) For Model CL-600-2B16 (604 variant), S/N 5301 through 5665 inclusive: Revise the existing AFM to incorporate the information specified in paragraphs (g)(1)(i) and (ii) of this AD of Bombardier Challenger 604 Airplane Flight Manual – Publication No. PSP 604-1, Revision 120, dated December 8, 2020.

(i) Sub-section 2. “Automatic Flight Control System,” of section 02-08, Systems Limitations, of Chapter 2 – LIMITATIONS.

(ii) Sub-sub-section B., “Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP,” of sub-section 1. “Single Engine Procedures” of section 05-03, “Single Engine Procedures,” of Chapter 5 – ABNORMAL PROCEDURES.

Note 1 to paragraph (g)(1): For obtaining Bombardier Challenger 604 Airplane Flight Manual – Publication No. PSP 604-1, use Document Identification No. CH 604 AFM.

(2) For Model CL-600-2B16 (604 variant), S/N 5701 through 5988 inclusive: Revise the existing AFM to incorporate the information specified in paragraphs (g)(2)(i) and (ii) of this AD of Bombardier Challenger 605 Airplane Flight Manual – Publication No. PSP 605-1, Revision 58, dated December 8, 2020.

(i) Sub-section 2. “Automatic Flight Control System,” of section 02-08, Systems Limitations, of Chapter 2 – LIMITATIONS.

(ii) Sub-sub-section B., “Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP,” of sub-section 1. “Single Engine Procedures” of section 05-03, “Single Engine Procedures,” of Chapter 5 – ABNORMAL PROCEDURES.

Note 2 to paragraph (g)(2): For obtaining Bombardier Challenger 605 Airplane Flight Manual – Publication No. PSP 605-1, use Document Identification No. CH 605 AFM.

(3) For Model CL-600-2B16 (604 variant), S/N 6050 through 6160 inclusive: Revise the existing AFM to incorporate the information specified in paragraphs (g)(3)(i) and (ii) of this AD of Bombardier Challenger 650 Airplane Flight Manual – Publication No. PSP 650-1, Revision 23, dated December 8, 2020.

(i) Sub-section 2. “Automatic Flight Control System,” of section 02-08, Systems Limitations, of Chapter 2 – LIMITATIONS.

(ii) Sub-sub-section B., “Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP,” of sub-section 1. “Single Engine Procedures” of section 05-03, “Single Engine Procedures,” of Chapter 5 – ABNORMAL PROCEDURES.

Note 3 to paragraph (g)(3): For obtaining Bombardier Challenger 650 Airplane Flight Manual – Publication No. PSP 650-1, use Document Identification No. CH 650 AFM.

(h) Additional AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If

sending information directly to the manager of the New York ACO Branch, mail it to ATTN: Program Manager, Continuing Operational Safety, at the address identified in paragraph (i)(2) of this AD or email to: 9-avs-nyaco-cos@faa.gov. If mailing information, also submit information by email. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer:* For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada; or Bombardier, Inc.'s Transport Canada Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(i) Additional Information

(1) Refer to Transport Canada AD CF-2022-45, dated August 11, 2022, for related information. This Transport Canada AD may be found in the AD docket at regulations.gov under Docket No. FAA-2023-0010.

(2) For more information about this AD, contact Chirayu Gupta, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email 9-avs-nyaco-cos@faa.gov.

(j) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Sub-section 2. “Automatic Flight Control System,” of section 02-08, Systems Limitations, of Chapter 2 – LIMITATIONS of Bombardier Challenger 604 Airplane Flight Manual – Publication No. PSP 604-1, Revision 120, dated December 8, 2020.

Note 4 to paragraph (j)(2)(i): This note applies to paragraphs (j)(2)(i) and (ii) of this AD. For obtaining Bombardier Challenger 604 Airplane Flight Manual – Publication No. PSP 604-1, use Document Identification No. CH 604 AFM.

(ii) Sub-sub-section B., “Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP,” of sub-section 1. “Single Engine Procedures” of section 05-03, “Single Engine Procedures,” of Chapter 5 – ABNORMAL PROCEDURES of Bombardier Challenger 604 Airplane Flight Manual – Publication No. PSP 604-1, Revision 120, dated December 8, 2020

(iii) Sub-section 2. “Automatic Flight Control System,” of section 02-08, Systems Limitations, of Chapter 2 – LIMITATIONS of Bombardier Challenger 605 Airplane Flight Manual – Publication No. PSP 605-1, Revision 58, dated December 8, 2020.

Note 5 to paragraph (j)(2)(iii): This note applies to paragraphs (j)(2)(iii) and (iv) of this AD. For obtaining Bombardier Challenger 605 Airplane Flight Manual – Publication No. PSP 605-1, use Document Identification No. CH 605 AFM.

(iv) Sub-sub-section B., “Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP,” of sub-section 1. “Single Engine Procedures” of section 05-03, “Single Engine Procedures,” of Chapter 5 – ABNORMAL PROCEDURES of Bombardier Challenger 605 Airplane Flight Manual – Publication No. PSP 605-1, Revision 58, dated December 8, 2020.

(v) Sub-section 2. “Automatic Flight Control System,” of section 02-08, Systems Limitations, of Chapter 2 – LIMITATIONS of Bombardier Challenger 650 Airplane Flight Manual – Publication No. PSP 650-1, Revision 23, dated December 8, 2020.

Note 6 to paragraph (j)(2)(v): This note applies to paragraphs (j)(2)(v) and (vi) of this AD. For obtaining Bombardier Challenger 650 Airplane Flight Manual – Publication No. PSP 650-1, use Document Identification No. CH 650 AFM.

(vi) Sub-sub-section B., “Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP,” of sub-section 1. “Single Engine Procedures” of section 05-03, “Single Engine Procedures,” of Chapter 5 – ABNORMAL PROCEDURES of Bombardier Challenger 650 Airplane Flight Manual – Publication No. PSP 650-1, Revision 23, dated December 8, 2020.

(3) For service information identified in this AD, contact Bombardier, Inc., Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-2999; email ac.yul@aero.bombardier.com; Internet bombardier.com.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on April 3, 2023.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.